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(56) Documents Cited
EP 1067792 A2   EP 0363847 A1
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(58) Field of Search
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(54) Abstract Title
Communications system which allows advertisements to be stored at receiver

(57) A communications system in which transmitted advertisements may be stored in a user's access equipment for viewing on demanding or replacing later transmitted advertisements.

The communications system may be an interactive television or Internet browser and may include a means for selectively storing advertisements according to a user defined preferences.

Also disclosed is a means for allowing a user to tag an advertisement when it has been viewed.
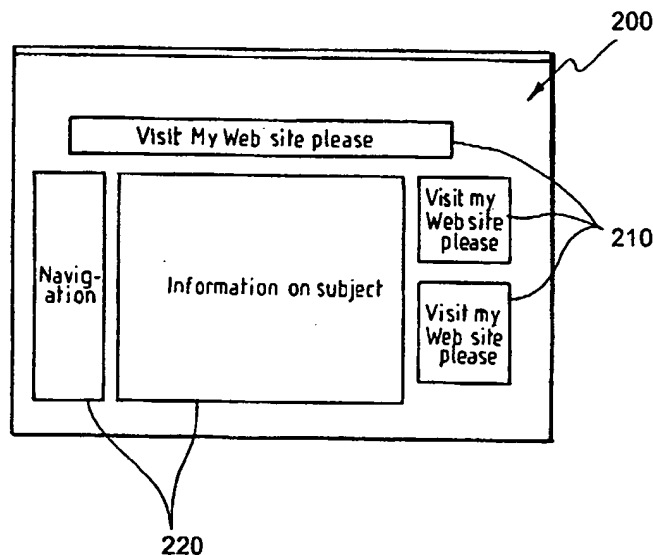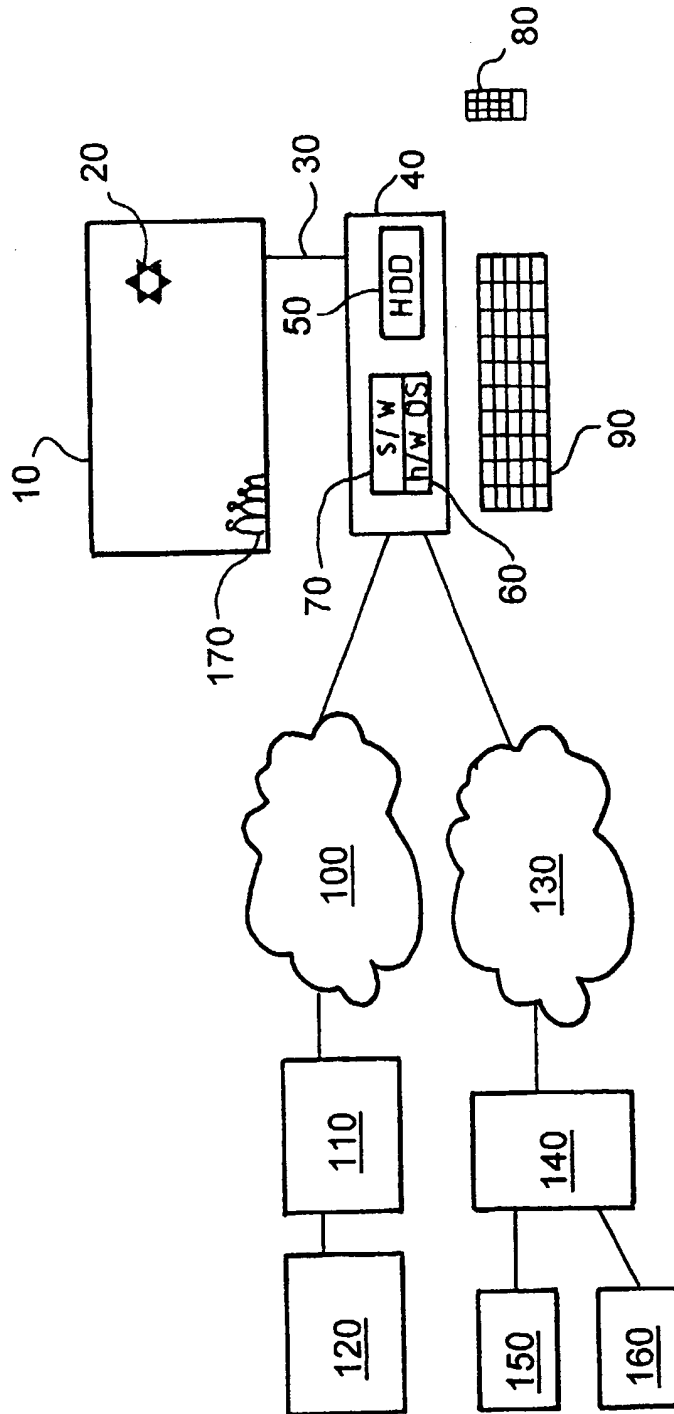
Fig. 2
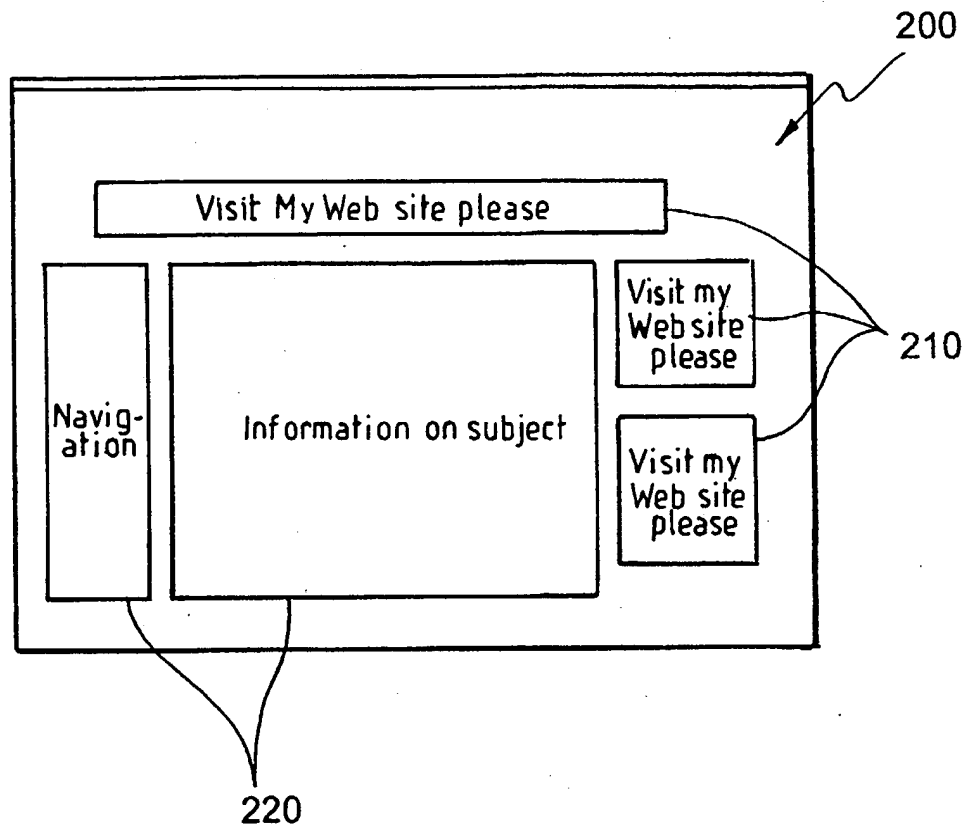
GB 2 365 649 A

Fig. 1

Fig. 2

Title: Communications System and Method of Personalised Interactive TV Advertising over Broadcast Television System

Field of the Invention

This invention relates to a communications system and method of personalised interactive advertising over broadcast television, and via the Internet

Background to the Invention

For many years commercial TV companies have broadcast advertisements in the periods between TV shows. One of the defining features of broadcast television is that all viewers of the TV show have always seen the same programming, and in particular they have always seen the same advertising.

More recently *interactive* TV systems have been developed. These are an evolution of "one-way" broadcast TV systems. They typically have a low bandwidth "return" channel that allows the user to communicate back to the network. In digital cable TV systems this return channel is often created using a cable modem. In satellite and terrestrial TV systems the return channel is typically through a telephone line.

Conventional interactive TV adverts augment the broadcast TV image with interactive content delivered in part over the broadcast TV channel and in part via the two-way interactive channel. This content is similar to a web-page or a link to a web-page which enables the viewer to find out additional information.

Another type of known interactive TV is where multiple parallel, "alternative" channels are broadcast and depending upon which options the user selects, the appropriate broadcast channel is selected for display; this gives the illusion of one interactive programme.

The Problem

The problem with conventional TV advertising is that all viewers see the same advertisement irrespective of whether or not the product in question is interesting to each individual viewer. Even if the broadcast advertisement is interactive, i.e. there are a number of options within the advertisement that the viewer may select, it is still the same basic advertisement seen by all people.

A further problem with interactive TV advertisements is that they are necessarily more expensive to produce than linear non-interactive advertisements. A linear advertisement for a 30 second slot requires only 30 seconds of material. An interactive advertisement with multiple choices and outcomes may require a total of several minutes of material. Moreover it is creatively challenging to create interactive content that is consistent with and complementary to the original linear advertisement. Another problem is that customers are often passive while watching TV and do not want to actively pursue information on products. Moreover customers do not want to miss any of the programme they have been watching by getting involved in interacting with TV advertisements.

Object of the invention

The primary invention is to provide:

a communications system for delivering personalised advertising on television and on the Internet and a system for incentivising customers to view advertisements.

The Invention

According to one aspect of the invention, there is provided a communications system in which transmitted advertisements or access to transmitted advertisements is presented on a user's TV or monitor screen, wherein personalised advertisements are stored in the user's

access equipment and are called up or can be called up at will to replace the transmitted advertisements.

For example in a system of interactive TV advertising according to the invention personalised TV advertisements are recorded in advance and played in intervals either synchronised with the advertisement breaks in the broadcast programming, or at any other point chosen by the viewer. These locally recorded and stored advertisements may replace the advertisements broadcast on the TV channel that the user is viewing. Analogously, according to either aspect of the invention, Internet advertisements, such as banner advertisements, are stored on a user's hard disk and inserted in place of the original advertisements on a web-page. There are two reasons why a viewer should desirably be able to choose to replace standard advertisements with personalised advertisements: firstly, they are more relevant to the viewer's stated interests and secondly, the viewer may be paid or otherwise rewarded for viewing these advertisements.

In accordance with another feature of the invention each advertisement transmission is coded with information identifying its content, subject matter or a characteristic of the product or service being offered, to allow advertisement transmissions to be selected according to identification.

Where such identifications are provided with each advertisement transmission, the user's access equipment is preferably adapted by means for selecting advertisement transmissions according to the identifying information associated therewith, for storage for subsequent or for immediate display.

In accordance with a further aspect of the invention, a communications system incentivises users to view TV advertisements. According to this aspect of the invention, there is provided a communications system based on interactive TV advertising, wherein TV advertisements appearing on screen are tagged with a screen button/logo and a corresponding button on a viewer's TV control unit, when pressed, enables the system to

recognise that the viewer has viewed the tagged advertisement. The system may have two stages.

In a first stage the viewer "passively" watches TV. Conventional TV advertisements appear and are tagged with an on screen button/logo. This button corresponds to a button on the viewers TV remote control unit. By clicking on the button the system recognises that the viewer has viewed the corresponding advertisement. This allows the system to credit rewards in the form of cash, loyalty points, money off coupons to the viewer's account. The viewer does not have to think. By clicking on the icon the viewer also indicates a willingness to receive subsequent follow up information.

In the second stage the viewer is e-mailed a weekly/monthly rewards statement. This gives the viewer's current rewards balance and provides web-links to the products featured in the advertisements and to other advertisements selected to suit the viewer's interests. During this second phase the viewer may now actively interact with the products advertised.

Description of Embodiments

In the accompanying drawings;

Figure 1 shows the invention when applied to interactive TV, and

Figure 2 shows the invention when applied to browsing on the Internet.

Referring to Figure 1,

10 designates a TV Receiver/Monitor;

20 designates an onscreen icon created by the application running in the Set-Top box;

30 designates video/UHF connection between the TV and the Set-Top box;

40 designates a Set-Top box which contains among other circuits, a microprocessor / OS / middle ware platform (60) for running software applications (70) and a hard disk drive or other local storage (50);

80 designates a remote control keypad and 90 is a remote (qwerty) keyboard;

100 designates a one way "broadcast" network such as an off-air terrestrial TV transmission network, a Direct broadcasting Satellite system or a CATV system;

110 designates broadcasting equipment, e.g. terrestrial TV transmitters, CATV head-end, satellite TV transponder;

120 designates a source of video signals;

130 designates a two-way communication network such as a modem connected to a public telephone / data network or a cable modem connected to a two-way CATV network;

140 designates a web-server that serves web pages;

150 designates a database of advertisements (static graphics, video, text, audio); and

160 designates a database of the viewer's profiles and preferences.

Prior to any advertisements being delivered the user may state their preferences for which type of advertisements they wish to receive. Alternatively the viewer may omit to specify preferences and general interest advertisements will be selected for the viewer. To state their preferences, the user of the service logs onto the web-site (140) and specifies which type of advertisements they would like to receive. The viewer may specify particular product categories, leisure interests or lifestyles, for example. This information is stored

in a viewer preference database 160. This information allows appropriate advertisements to be selected from the database of advertisements (150) for delivery to the viewer. Advertisements in the database (150) have a corresponding reference code.

The web-server (140) communicates with the Set-Top box Application (70) and gives it the identification code of the selected advertisements. It also downloads instructions on the time or circumstances when a selected advertisement should be displayed, e.g. time of day, when particular viewers have registered that they are watching TV etc.

A stream of advertisements is broadcast over the TV transmission network (100). These advertisements may be broadcast either during conventional advertisement breaks or on separate channels carrying only advertisements. Alternatively, the advertisements may be downloaded over a dial-up/LAN, cable modem Internet connection (130).

The reference code for the advertisements to be retrieved off-air identification is embedded either in a digital marker included in a digital multiplex or in the vertical blanking lines on analogue TV or precise scheduling information on the channel, date/time of day when the advertisement will be broadcast.

The Set-Top box monitors the transmission of the relevant advertisements, and when these are broadcast it records these into its local storage. Alternatively, the box can be configured to download these over the Internet (130). These may be stored on either analogue or preferably digital recording media.

TV programs are broadcast normally. During the advertisement breaks advertisements are broadcast on the TV channel. The Set-Top box identifies the advertisement breaks either from header information in the digital multiplex, a marker signal in the vertical blanking interval of an analogue broadcast or from exact time-of-day scheduling information provided by the broadcaster either in a broadcast Electronic Program Guide or published or communicated in some other means, e.g. published in a journal, or a web-site or from timing information transmitted over the Internet or some other network.

In an alternative form of the invention, advertisements are embedded within the television show itself, e.g. in the form of a billboard hoarding which is featured in the background of the show. The contents of these integral advertisements may also be substituted with advertisements selected from local storage.

Depending upon the instructions that it has received from the Web-server (140), the Set-Top box will either display the advertisement being broadcast "live" or display one of the advertisements pre-stored on the hard disk drive (50). Alternatively, if the viewer has a connection via a very high speed two-way network (130), the advertisements may be streamed from an advertisements database (150) rather than from the local storage.

Alternatively, rather than wait for advertisements to appear during advertisement breaks, the viewer may select to watch the advertisements stored on the local storage device (40).

An icon (20) is superimposed on the video advertisement. This may be achieved either at the video source (120) or by the software application (70).

This icon informs the user that by clicking the corresponding button on the remote control (80) that the user will receive rewards points or other payment tokens.

When the user clicks the appropriate button on the remote control (80), it is logged by the application (70). The date, time, channel and advertisement identifier may also be logged. The fact that advertisement has been clicked may be either communicated directly to the Web-server (140) or stored in local storage (50) until the next time the Set-Top box goes online and is connected to the server (140).

The Web-server (140) keeps a record of which advertisements the user has clicked on. At periodic intervals (weekly/monthly) the web-server e-mails a rewards package to the viewer. This rewards package contains web-links to the advertisements featured in the TV

advertisements and optionally to other promotional incentives, money off coupons, or links to products that the viewer may be interested in.

The Set-Top box application (70) may also provides a facility whereby multiple family members can identify if they are present in the room with the TV. This will allow the application (70) to select TV programmes and advertisements to suit all the viewers tastes. This could be visually represented by say four hollow outlines icons (170) and as each family member clicks their appropriate icon, the hollow outline is filled in to become a solid silhouette.

The same approach may be applied to Internet banner advertisements.

Thus, referring to Figure 2,

200 is a typical Web-browser window.

210 are advertisements which are typically not provided by the host site but are hyper-linked from a third party web-site.

220 is information provided by the host web-site.

The advertisements are recognisable in the html code by a number of factors, their position on the web page, the type of file references (commonly a .gif file) and the fact that they are hyper linked to the web site addresses of well known advertising company names.

Then, a browser plug-in module identifies which elements in the web-page are advertisements and replaces these with advertisements drawn from local storage. These locally stored advertisements are both personalised to the user's interests and offer the user the opportunity to receive payment for clicking on these advertisements.

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Claims

1. A communication system in which transmitted advertisements or access to transmitted advertisements is presented on a user's TV or monitor screen, wherein personalised advertisements are stored in the user's access equipment and are called up or can be called up at will to replace the transmitted advertisements.

2. A system according to claim 1, applied to interactive TV advertising, wherein the personalised advertisements are recorded in advance in the user's receiving equipment and played automatically or optionally in intervals either synchronised with advertisement breaks in broadcast programming or at any other point in viewing time chosen by the viewer.

3. A system according to claim 2, wherein the personalised advertisements are stored in a user's set-top box unit providing for interaction.

4. A system according to claim 1, applied to Internet browsing, wherein personalised advertisements are stored on a user's hard disk in the user's computer and are inserted or insertable at will in place of the original advertisements on a web page.

5. A system according to any of claims 2 to 4, wherein by viewing and responding to a replacement advertisement, the user is offered a payment or other reward.

6. A system according to any of claims 1 to 5, wherein, by logging on to a web-site, the viewer or user is able to specify particular categories of preferred advertisements which are stored in a user preference database, in order to enable software at the web-site to select personalised advertisements for downloading to the user's access equipment.

7. A system according to claim 6, wherein the selected personalised advertisements are downloaded either to be stored in the user's TV access equipment or on the user's hard disk.

8. A communications system based on interactive TV advertising, wherein TV advertisements appearing on screen are tagged with a screen button/logo and a corresponding button on a viewer's TV control unit, when pressed, enables the system to recognise that the viewer has viewed the tagged advertisement.

9. A system according to claim 8, wherein pressing the button on the control unit also enables the system to offer payment or other reward for viewing the advertisement.

10. A system according to claim 8 or claim 9, wherein the viewer is regularly advised, as by e-mail, with reward statements.

11. A system according to claim 10, wherein the viewer is also provided with web-links to further details of advertisement features and to related advertisements.

12. A system according to any of claims 1 to 11, wherein each advertisement transmission is coded with information identifying its content, subject matter or a characteristic of the product or service being offered.

13. A system according to claim 11, wherein the user's access equipment includes means for selecting advertisement transmissions according to the identifying information associated therewith for storage for subsequent or for immediate display.

14. A communications system substantially as hereinbefore described with reference to Fig 1 or Fig 2 of the accompanying drawings.

Application No:	GB 0115007.7	**Examiner:**	Ms Ceri Witchard
Claims searched:	1-7	**Date of search:**	4 December 2001

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.S):

Int Cl (Ed.7):

Other: Online: WPI, EPODOC, JAPIO

Documents considered to be relevant:

Category	Identity of document and relevant passage		Relevant to claims
X Y	EP 1067792 A2	IBM See whole document, especially column 1 lines 25-35, column 3 lines 20-25 and 35-38, column 4 lines 33-40, column 5 lines 4-19 and column 8 lines 4-10.	X: 1-4, 6-7 Y: 5 & 12-13
X Y	EP 0363847 A1	A.C. Nielson See especially column 4 lines 45-48 and column 5 lines 1-4.	X: 1-3 Y: 5 & 12-13
X Y	WO 00/22818 A1	E GUIDE INC See especially page 1 lines 27-31.	X:1-3 Y: 5 & 12-13
X Y	WO 00/02389 A1	MCALLAN See especially page 2 lines 7-13.	X: 1-4 & 6-7 Y: 5 & 12-13
Y	US 5774170	HITE et al see especially column 3 lines 43-45 and column 4 lines 3-8.	12-13
Y	US 5604542	INTEL See column 1 lines 46-48.	5
X Y	US 5233423	NORTH AMERICAN PHILIPS See especially column 1 lines 33-40 and column 2 lines 5-10 .	X: 1-3 Y: 5 & 12-13

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.